

# EUROPEAN PATENT OFFICE

## Patent Abstracts of Japan

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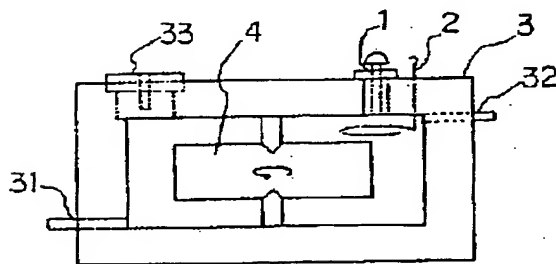
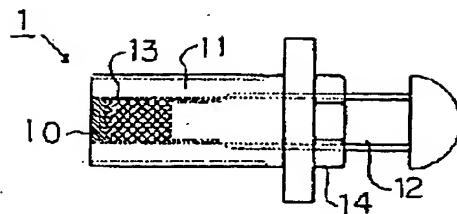
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INVENTOR : NANBA AKIRA;

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TITLE : ETHANOL SENSOR



**ABSTRACT :** PURPOSE: To easily form an electrode and to carry out measurement within a short time by using a hydrophobic compound as an electron acceptor and combining acetic bacteria membrane bonding alcohol dehydrogenase, an electron acceptor modifying electrode and a reference electrode.

CONSTITUTION: An electron acceptor composed of a hydrophobic compound synthesized from water-soluble ferricyanate and a cationic surfactant, an amphoteric surfactant or a nonionic surfactant, acetic bacteria membrane bonding alcohol dehydrogenase, a conductive powder and an org. binder are mixed to prepare paste. This paste is applied to the end surface of a graphite solidified body 13 and cured to form an electrode agent 10 to prepare an enzyme and electron acceptor modifying electrode 1. This electrode 1 and a reference electrode 2 are combined to constitute a sensor. This sensor can directly measure a generated oxidizing current amperometrically and has a rapid reaction time and excellent linearity. Further, the electron acceptor can be simply synthesized and isolated in an aqueous solution and this electron acceptor and enzyme are merely mixed with the org. binder to be fixed to the electrode agent.

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